TWELFTH-CENTURY CAPITALS, ROUEN CATHEDRAL.

THE STUDY OF MEDIÆVAL ARCHITECTURE.

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NOTWITHSTANDING the interest in mediæval architecture that has prevailed since the beginning of the last century, it cannot be said that the subject has yet been studied with the faithfulness it demands. The literature relating to it is indeed voluminous, but in so far as the art itself is concerned—that is, apart from its archæological and historical aspects—it is hardly too much to say that most of the books that have been written show inexact knowledge and inattention to essential character in the different types of mediæval building. What may be called the holiday method of observation is too obvious in most of them. Books of superficial impressions, mistaken affirmations, and personal prejudices are too often found in the hands of those who seek information on this great subject.

There have indeed been a few writers of great competence. The names of Willis and Viollet-le-Duc will endure so long as intelligent interest in mediæval architecture shall survive. Both of them had native aptitude, were actuated by an absorbing interest in their subject, took great and unremitting pains to equip themselves, and, within the range of what they attempted, are in the main entirely trustworthy. Like other competent and conscientious writers, they make no affirmations unsupported by carefully observed facts. Neither of them was, indeed, much concerned with the æsthetic side of architecture, nor does either of them show fine æsthetic discrimination; but this side is hard to treat clearly, since æsthetics transcend human science, and every man's feeling will be moved differently by a work of art. Few others can be named as equals of Willis and Viollet-le-Duc within their proper fields.* Several others might, however, be added who have done excellent work in limited fields, notably M. F. de Verneilh, who, in *L'Architecture Byzantine en France* (Paris, 1851), has given the most excellent, and the most lucid, exposition of Byzantine architecture on its structural side that has been produced. This book, notwithstanding such errors as to dates and origins as it may contain, is a monumental work of great importance. Ruskin's noble feeling and impassioned eloquence touch

* Two other writers of competence within their own fields are Quicherat and Choisy. But Quicherat was only an archæologist, and Choisy was an engineer with little appreciation of the fine art of architecture.

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some of the higher qualities of expression in architecture that other writers have failed to grasp. But his study of architecture was not profound, and his strong feeling and self-confidence led to dogmatism which weakens his otherwise incomparable work. Among later writers, Mr. John Bilson has done admirable work. His studies of Durham, Augers, and other monuments are models of competent investigation and clear exposition. I shall not, however, discuss the works of individual living writers. I do not doubt they would agree with me that the subject has not yet been adequately treated.

With a view to help toward a more effective study of mediæval architecture than has hitherto prevailed, I propose here to offer some suggestions under the following heads : (I.) Examination of the Monuments ; (II.) The Use of Photographs ; (III.) The Use of Books.

I.

Since the architecture of the Middle Ages is that of churches primarily, it is with church edifices only that we shall be concerned.

In the study of buildings it is important to work systematically, and to give our first attention to forms of construction, since these constitute the basis of design and fundamentally differentiate architectural styles. But we should bear in mind that in architecture construction is in the service of the artistic imagination, and that the architect, in planning a building and determining its forms of support and enclosure, has regard at every step to the gratification of the eye.

In examining a church edifice of the Middle Ages we should first observe to which of the numerous types of mediæval building it belongs. We should notice broadly whether it be Romanesque or Gothic. If it be Romanesque we must observe how far it retains the basilican character—*i.e.*, how far it consists of plain walls, continuous arcades, and timber roofs ; how far basilican forms are modified by features derived from the Byzantine source—as where some sort of dome on heavy piers is placed at the crossing ; or how far it is essentially Byzantine throughout—*i.e.*, whether the system consists mainly of domes on pendentives ; or, finally, how far it has the organic vaulted character that developed into Gothic. If it have any Gothic features—*i.e.*, if it have vaulting on groin ribs, with the pointed arch prevailing over the round arch, we should observe how far the vaulting departs in its conformation from the ancient Roman form, whether there be a logical system of supports, and whether the external system is consistently related to that of the interior, so that the vault thrusts are effectively met by abutments. The measure of true Gothic character, as to construction, that a building may have will depend on the degree in which the ribs of the vaulting are formed and adjusted so as to shape the vaults for effective concentration of thrust, on the completeness, consistency, and economy with which the piers provide support for every rib and archivolt, and on the effectiveness with which the buttress system meets the exigencies of thrusts—so that a stable equilibrium is established and maintained in the whole system.

It will generally be found that a church of the Middle Ages will not be all of the same character. The different parts may be in as many different styles, for in the Middle Ages additions, rebuildings and alterations, whether of large or small parts, were carried out in the style that prevailed when the work was done, with no regard to uniformity with the earlier parts. Normally the eastern part would be the earlier, since it was the custom to begin a church at the east end in order that the choir and sanctuary might be available for use while the western parts were building. If there was long delay before the other parts were begun, the style of building would have changed, and the new part would differ correspondingly from the old. But, as it often happened that an early east end was demolished and replaced by a new one at a time considerably subsequent to that of the original construction, we may often find the east end to be in a later style than that of the nave. Even in the rare cases where a whole church was built at one time, and thus in one style, it will hardly have escaped alterations, or interpolations, in later styles. All such differences of style in a given building should be noted in our preliminary survey.

It may here be remarked that in the vaulted architecture of the twelfth century in the Ile de France two types of elevation occur—namely, that in which a vaulted gallery covers the lower aisle, as at Noyon and Paris, and that in which only a narrow passage over the ground story arcade occurs at this level, as at St. Leu d'Esserent. It is common to call the first a triforium gallery, because it occupies the place usually taken by the triforium, which is properly the space between the aisle vaulting and the timber roof that covers it. Where such a gallery occurs the true triforium is lifted to a higher level, and the building is in four stages internally instead of only three. But the triforium when thus lifted is not always expressed by an arcaded passage. The French triforium passage, it should be noted, is shut off from the triforium space by a screen wall. The vaulted gallery is, of course, a survival of the tribune gallery of one type of Christian Roman basilica.

Having completed our preliminary observations, we may begin a rigorous examination. It will usually be found that, although the nave and choir may not be alike in architectural character, each will be substantially of the same general design throughout.

Suppose we take a twelfth-century vaulted church of the Ile de France. Since in logical vaulted architecture the vaulting determines the structural composition of all other parts, we must begin with the vaults, as the builders themselves necessarily did; for in order to dispose and shape the supports suitably they must have settled in their minds the form of the vaulting. In the Ile de France, from about the middle of the twelfth century, both the quadripartite and the sexpartite forms of vaulting occur contemporaneously, but with many variations of conformation of which we need to take note.

We should first examine the rib system, because, as already remarked, it primarily shapes the vault and commands the composition of the supports. Observe whether the ribs are all pointed, and, if they are not, notice which of them retain the round form, and which, if any, are stilted. Look whether their crowns are all on the same level, or whether the groin ribs reach higher than the others, making the vault domical.* Note in what manner the longitudinal ribs are stilted—whether by shafts rising from the pavement or by shafts starting from higher levels—and whether the transverse and groin ribs start free at the impost or whether they interpenetrate. In sexpartite vaulting notice whether the intermediate transverse rib be pointed in order to reach the point of intersection of the groin ribs or whether it be a stilted round arch. Observe, in each vault cell, whether the surfaces be concave in all directions or whether they approach in any part a cylindrical form; and in the lateral cells note the degree in which the surfaces are warped, or plowshared, in consequence of the stilting of the longitudinal rib. In order to determine the conformation with any exactness it will be necessary to examine the upper surface of the vault. By taking levels here the form may be fully made out where it can be reached, but the lower parts will be inaccessible, since from the springing up to the haunch there will be a solid filling. Then observe the vault masonry. Note whether it be measurably regular or composed of stones roughly cut and of varied size and shape; whether the courses incline more or less, especially near the springing, and in what direction they incline, *i.e.*, whether from the springing upward toward the groin ribs or the reverse. Note, too, where the surfaces are distinctly concave, how far the courses are noticeably gore-shaped.

We have next to examine the system of supports. Observe the form of the great pier—whether it be compound from the pavement, with a shaft for each rib in the vaulting, or whether, on the ground storey, it be a single column with the vaulting shafts gathered on its capital, or whether the main shafts rise from the pavement, while the others start from higher levels. Look whether the shafts are in long monolithic sections or are built up of small stones; and note whether they vary in magnitude in agreement with the magnitudes of the ribs they respectively carry. Where the piers of the apse are, on the

* The term domical, as applied to Romanesque and Gothic vaulting, does not appear to be always correctly understood. It means only that the crowns of the groin arches are higher than those of the other arches of the vault. It does not mean that the vault has any approach to the form of a hemispherical dome, or any derivation from such a dome.

ground storey, single columns, notice whether they are monolithic or are built up of drums, and in comparing the piers and shafts of different buildings observe how far those that are monolithic tend to have smaller proportionate diameter than those that are composed of drums or of small stones.

Where the building has a triforium passage, the pier will, of course, be pierced, as at Meaux ; but where the vaulted gallery occurs, as at Paris, it will naturally remain solid.

Observe whether the capitals and bases of the shafts supporting the groin ribs are set obliquely, in conformity with the directions of those ribs,* and note the profiling of the vault ribs and archivolts. Note also the forms of the bases and capitals, including the profilings of the base mouldings and the abaci of the capitals.

Observe whether the clerestory and aisle openings are pointed, and whether they fill the spaces between the piers. Observe, too, whether they are in single or double lights, and where they are double note the mullion section. Note, also, how the tympanum is formed, *i.e.*, whether it have a circular piercing, and whether there be cusping to the circle.

Of the external system, examine the pier buttress, *i.e.*, the buttress incorporated with the pier above the aisle vaulting, which rises through the aisle roof. Find whether this buttress overhangs the ground storey pier. This will be ascertained by measuring the diameter of the pier on the ground storey, and again from the aisle roof, where it will include the buttress. Find also whether this buttress be reinforced by an arch, springing from the outer buttress, beneath the aisle roof ; and how, and at what level, the flying buttress, if there be one, is adjusted to it, and whether the flying buttress be single or consist of two superimposed arches. Then notice the form of the great outer buttress, whether it have many or few set-offs, how high it rises above the aisle roof, how it is shaped at the top, at what level the flying buttress springs from it, and at what level this last meets the pier buttress.† Notice, also, how the sloping back of the flying buttress is treated, whether it be gabled or flat. Look if the clerestory have any sort of parapet, or whether, on the other hand, the roof is brought over the cornice.

To gain a complete understanding of an architectural system there is no means so good as that of drawing. More may be learned about Gothic construction by working out a cross section than by any other means. A cross section shows at once the internal and the external system and their relation to each other. In working out such a section all parts that can be reached must be measured. Parts that are inaccessible will have to be measured by eye with reference to those that have been measured mechanically. It will be well to make a free-hand drawing of the whole system by eye, guided by the imagination as to how a section would look. On this drawing every measurement may be set down as it is taken. The section may then be readily worked out to scale from these data.

In measuring it will be well to use the metric system, since this is universal on the Continent, and uniformity is desirable.

Exact measurements will not be always possible, but small inaccuracies are immaterial. A slight error in the height of a vault will be no great matter. For horizontal measurements a steel tape is best ; for lesser heights a pole, or a jointed fishing rod, will be useful ; while for greater altitudes a plumb line will serve, where a point from which to drop it can be reached. In high vaulting a hole will nearly always be found at the crown of each compartment through which the line may be let down. The thickness of the vault can hardly be measured with precision, for the groin ribs and the boss will be added to the thickness at this point, and there will be no means of finding their salience beneath the vault surface. But the thickness of all together may be found with enough correctness by

* In the French Gothic art of the twelfth century the abacus of the capital is normally square on plan, and the capitals of the shafts supporting the groin ribs are in most cases set obliquely.

† The height to which the head of the flying buttress is carried in relation to the springing of the vault differs greatly. In the developed Gothic the upper arch (where there are two) meets the pier buttress at the level of the crown of the vault.

measuring on a rod thrust through the hole with its lower end reaching, as nearly as can be determined, to the bottom of the boss.

The level of the springing of the vault must be taken by eye with reference to that of the clerestory string. But the level of this string can hardly be got with precision, since a French clerestory has no passage on the inside to give access. It may, however, be found with some approach to correctness by measuring the height of the triforium arcade from the triforium string—which can always be reached—and taking the proportionate height above this arcade by looking across from the opposite triforium. The level of the triforium string itself can be measured with the plumb line. If it be too far below the ledge to be conveniently reached by the hand, the height of the ledge may be measured with the line, and the depth of the string below it measured on a rod and subtracted.* Unless the building be very large, the height of the ground storey pier may be taken with a long rod. Where it is too tall to reach with a rod it may be measured by eye with reference to the height of the triforium string, which we have already measured with the plumb line. The crown of the arch of the great arcade must also be taken by eye.

The profiles of members that can be reached may be measured with exactness by taking offsets, at measured intervals, from a straight-edge.

We come now to the apse and the west front. In examining the apse we must observe the arrangement of the ribs of the vault. Notice whether they meet on the crown of the easternmost transverse rib of the choir vault or whether the point on which they converge is eastward of this, so that a pair of ribs spring from the easternmost piers of the choir and abut them. If they meet on the crown of the easternmost transverse rib, notice whether this crown be, on plan, at the centre of the curve on which the apse is set out, or whether it be west of the centre. In other words, find whether the apse be, on plan, a half circle or an arc of more than half a circle. If it be more than half a circle, then the ribs of the vault converging on the transverse choir rib will, of course, be of unequal length, as in the Cathedral of Paris.

Observe the form of the easternmost compartment of the choir vaulting. If it be quadripartite, then of course its groin ribs, intersecting in the centre of the compartment, will afford no abutment to the ribs of the apse vault, as in St. Germer de Fly; but if the groin ribs spring from the western piers of the compartment and meet on the crown of the easternmost transverse rib, making the vault tripartite, then the ribs of the apse vault will be effectively abutted, as in the Cathedral of Noyon. Where the choir vaulting is sexpartite the compartments will be so arranged that a half compartment will adjoin the apse, and thus its groin ribs will naturally meet those of the apse vault, as in the Cathedral of Paris. This half of the sexpartite vault will be, of course, precisely like the tripartite vault that adjoins the apse of Noyon; but there it forms no part of a sexpartite system, the choir vaulting of Noyon being quadripartite.

The converging of the ribs of the apse vault on the transverse rib of the choir vault will be found in early buildings only. In the more developed Gothic of the twelfth century the vault of the apse is made independent of the choir by having its ribs converge on the centre of the curve of the apse set eastward of the choir vault, with the additional pair of ribs sprung from the choir piers to give abutment, as described just above. In this case the apse will be set out on an arc of more than half a circle, and the ribs, being on plan radii of the circle, will be of equal length, as at Amiens. Another point to notice in the apse vault is the height of the ribs in the periphery corresponding to the longitudinal ribs of the rectangular vaults of the nave. Observe whether the crowns of these ribs are on the same level with the point of intersection of the groin ribs or are above or below that point. If they are lower the vault will be more or less domical. It will, however, be found that the vaults of French apses are rarely domical.

The apse of the twelfth century in the Ile de France is generally semicircular, or segmental, on

* One must be careful in making high measurements from unprotected places. A fall from the triforium might be fatal.

plan; but in the fully developed Gothic it becomes polygonal. In some instances it was begun in the earlier form and changed, as the work proceeded, into a polygon. Thus at Chartres and at Reims the basement of the apse is semicircular and the superstructure polygonal. All such points should be carefully observed.

In the vaulting of the apsidal aisle observe whether the groin ribs be curved on plan. If not curved, notice whether they are in straight lines from end to end, *i.e.*, whether the whole rib is in one vertical plane, or whether its two parts lie in different planes meeting at an angle. Notice also whether the point of intersection of the groins be, on plan, midway between the inner and the outer sides of the aisle or whether it be nearer one side than the other. If the groins be straight on plan from end to end, the point of intersection will, of course, be nearer the inner side, more or less according to the proportions of the trapezoidal plan. But it will be found that the groin straight on plan from end to end is rare, and occurs in very early apsidal aisle vaults only, as at Pontoise, but where the groins are, on plan, each broken to an angle the point at which they intersect may be anywhere, and is sometimes nearer the wall side of the compartment, as at Sens. Observe, too, whether any of these ribs interpenetrate at the springing, and whether any of them are stilted. The arches opening into the apse, being on the narrow side of the trapezoid, will in most cases be very much stilted, since without stilting, or acute pointing, their crowns would be low, and would make the crown of the vault slope correspondingly. Note, too, whether these vaults are domical, and whether their surfaces are concave. Note the forms of the aisle responds, and observe how their capitals and bases are set with reference to the ribs of the vaults. Notice here, too, the profilings of ribs, archivolts, capitals, and bases; and look whether the plinths and abaci are shaped on plan so as to conform with the curve of the apse, or whether they be straight on the inner and outer sides.

Where chapels open out of the apsidal aisle, look whether an arch separates each chapel from the adjoining aisle compartment, or whether both chapel and aisle compartment are embraced by a single vault. If there be a dividing arch, making the vault of the chapel independent of that of the aisle, observe the arrangement of the ribs of the chapel vault, as in the case of the vault of the great apse. If one vault cover both parts, notice how the combined rib system is composed.

Examine the outside of the apse, with its aisle and chapels, as in the case of the nave.

A transept being merely a transverse nave will exhibit no peculiar features, though in some of the earlier French churches, as Noyon and Paris, the transept has no aisles, and in some of them one or both ends are apsidal, as at Noyon and Soissons.

Unless the church be very early, the west front will not be of twelfth-century design and construction. In examining it observe first the general relationship of the larger parts to those of the interior. Look if the main vertical divisions answer to those of the nave and aisles, and if the horizontal divisions correspond to those of the ground storey, the triforium, and the clerestory. Notice whether the middle compartment have a gable answering to that of the timber roof over the vaulting or whether it be crowned with a horizontal cornice. If there be a circular opening in the upper stage of this compartment, notice if its diameter be equal to the whole space between the tower buttresses, and look inside the nave to find whether the westernmost transverse rib of the vaulting be semicircular, so as to form the upper half of this opening. Observe whether the pointed arch prevails in all other openings of the front; and where, in a twelfth-century front, the round arch is retained in some of them, observe whether it is so on both sides alike. The halting procedure of the primitive Gothic builders gave rise to many curious combinations of round and pointed arches in west fronts.

It is worthy of notice that the fine logic of the main system not seldom gives place to many violations of logic in the west front, which was nearly always designed and built after the finer Gothic inspiration was spent.

Where a vaulted church is in a state of ruin some things may be seen that are hidden from view when the building is intact, as the manner in which the vault masonry is laid on the ribs, the way in

which the masonry of the piers is disposed internally, how the engaged shafts are bonded, or keyed, into them, the masonry construction of the great imposts, and whether, and to what extent, metal cramps are employed in any parts. Where a portion of a nave is demolished we may sometimes find a nearly complete cross section exposed, so as to show the whole internal and external systems in their relation to each other. All such opportunities to examine the anatomy of a Gothic structure should be taken advantage of.

I have already spoken of the remarkable logic of Gothic design and construction as that of the artistic imagination, and not of mechanical science. In this the work of the great age of French Gothic art differs notably from that of the later Middle Ages. As Viollet-le-Duc has said, even the Gothic of the later thirteenth century " se réduit souvent à des formules qui tiennent plus de la science que de l'inspiration."*

The finer qualities of Gothic architecture have as yet been too little appreciated, because there has been too little discrimination between the pure Gothic art in its early integrity and the many corruptions and travesties of it that are met with in all parts of Europe. Just as the discerning student of ancient Greek art finds its finest qualities embodied in that of Athens in the Phidian age, so the discriminating student of mediæval art will find its purest and best manifestation in that of the Ile de France in the twelfth century.

For a just appreciation of the character and beauty of the pure Gothic style there is no means so good as the habit of faithful free-hand drawing. The student should never be without his pencil. Careful delineation opens the eyes. Especially is this true with regard to architectural sculpture. In proportion as the draughtsman has learned, through drawing from nature, to discern the living beauties of leaf and stem, as well as of the human and animal forms, will he be able to appreciate the vital quality so wonderfully imparted to the stone of the Gothic carver. No amount of photographing will have the same effect on him. As records of facts photographs are of great value, but the use of the camera does little to quicken the sensibilities of the operative.

The discerning student will, I think, find that the finest French Gothic comes practically to an end with the first quarter of the thirteenth century, though after this time, by virtue of what still survived of the earlier spirit, many great works were produced, as the choir of Amiens and the nave of Reims. In examining the later monuments, various superficial changes will be met with, but no important structural developments. The Gothic system reached its fullest structural perfection in the nave of Amiens, begun in 1220. Subsequent changes consisted in exaggerations and complications that tended to destroy the monumental temperance and refined beauty of the early Gothic art. The multiplication of ribs in the vault of the crossing of Amiens, the lighting of the triforium of the choir of the same church, and the excessive attenuation of supports in St. Urbain of Troyes, are early instances of such changes on the structural side; while ornamental changes consisted first in the multiplication of mouldings, needless complications of tracery, unrestrained profusion, and overnaturalism of carving; while, finally, capricious interpenetrations and sinuosities of mouldings and tracery, loss of vitality in foliation, extravagance of posture in figure sculpture, and general unquietness of design mark the last stages of decline. How far the student will care to follow these phases of the art will depend on his temperament, his æsthetic feeling, and his experience of the best. In so far as he appreciates the real character of the pure Gothic style, he will be quick to perceive the first departures from those principles of straightforward and logical composition on which it is based. He will find that such departures begin early, more particularly outside of the Ile de France. In the choir of Rouen, for instance, dating from the early part of the thirteenth century, a remarkable foreshadowing of Flamboyant interpenetration occurs. This will be seen in the illustration (Fig. 1) showing the great arcade of the south side of this choir where, in the impost of the second pier, the small roll on the first order of the great archivolt is carried through the lateral roll of the groin rib

* *Dictionnaire Raisonné de l'Architecture Française*, s.v. "Cathédrale," p. 339.

of the aisle vault, and brought down to the capital in true Flamboyant fashion.* It will be seen, too, that a part of this archivolt dies away, just above the springing, on the face of the great round column —which is carried up through the impost—in the manner that also became characteristic of Flamboyant work. This appears in every impost of the straight part, on both choir and aisle sides. It is clearly marked on the choir side in the impost seen on the left-hand side of the illustration.

In the study of the monuments the student should be on his guard against mistaking what is miscalled restoration for original work. The extent to which great works of the past have been

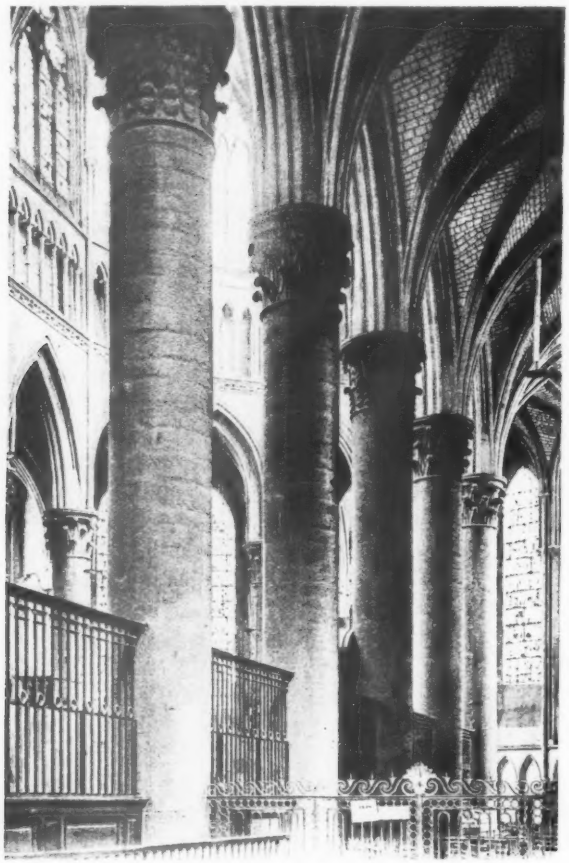

Fig. 1. South Side of Choir, Rouen Cathedral.

destroyed in the name of restoration is appalling. What mediæval churches have suffered from other forms of violence, or from decay, hardly exceeds, if indeed it equals, what has been lost at the hands of the restorer. The idea of restoration involves two fallacies—namely, the notion that proper upkeep of old churches requires that they should always be spick-and-span for modern uses, and the belief that damaged old work can be restored. But the usefulness of an old building does not depend on its looking like new, and to put new work in the place of old is not to restore, but to corrupt. To

* M. Enlart, in his *Origine Anglaise du Style Flamboyant*, Caen, 1906, finds the first instance of such interpenetration in the Church of St. Mary of Beverley, dating from the fourteenth century; but an examination of the earlier pointed architecture of Normandy might show, I think, that they had—like so many other things in the mediæval architecture of England—their beginnings in Normandy.

the student of art a restored building is a corrupt document. The guardians of ancient churches have not been faithful to their trust, and modern architects have been too ready to engage in works of rehabilitation, often involving ruthless demolition. In the case of the Cathedral of Paris, for instance, the student who should undertake an examination of it, as an expression of the French genius of the twelfth century, would need to exercise great care to distinguish later alterations and modern restorations from original work. The building is now, in superficial appearance, so complete and homogeneous that the casual observer would not suspect that it has not always been as we now see it. It has, however, not only undergone extensive alterations since the main body was completed in the twelfth century, but a large part of the sculptured enrichment of the west front—first completed in the early years of the thirteenth century—is now modern counterfeit. This is deplorable. Repair of ancient buildings is justified only where there is danger of collapse, and then only works of consolidation ought to be allowed. With carved ornament there is never any justification for replacing old work with new. The least fragment of carving ought to be preserved, and where none remains nothing should be done. This is now well understood with regard to ancient sculpture. Nobody of intelligence would think of attempting to restore the sculptures of the Parthenon.

Before leaving the subject of the study of the monuments a word must be said about chronology. While in most cases the dates of mediæval monuments are now, beyond doubt, determined with approximate correctness, no precise chronology is possible, for in most cases no clear records of dates are available. A statement in a mediæval document that a certain abbot or bishop, in a given year, founded a church, or that on a given date any part of it was completed or consecrated, is in itself no evidence of date, for we have no means of determining that the building we now see is the one to which the document refers; since the church may have been demolished and rebuilt more than once since the document was written. Such a document is therefore of little value unless we have some means of identifying the existing building as that to which the writing refers. Happily in several cases we have such means,* and there are enough instances of fairly well established dates for the French monuments to enable us, by the help of the comparative method, to form a fairly correct working chronology.

II.

As for the use of photographs it may almost be said that through them the comparative study of architecture has become for the first time possible, since photographs can be brought together for close comparison, and in unlimited numbers, as buildings themselves cannot. A photograph is an authentic document. If we have enough photographs of a given monument, taken from properly chosen points of view, and including details of both structure and ornament, we may learn almost as much from them as we should from an examination of the building itself.

A series of photographs that would explain the system of a Gothic building, such as we have considered, would have to show at least the following parts: A general view of the interior on, or near, the main axis; a view of the whole internal system of one side of the nave, of the choir, and of the transept; a view of one compartment of the vaulting taken from the pavement; a full view of the clerestory and triforium, from the opposite triforium; a full view of one bay of the ground storey up to, and including, the triforium string, taken from the opposite aisle; a view of the triforium passage, taken on its long axis; a view of the ground storey aisle on its long axis; an oblique view of the wall side of the aisle; a full view of one compartment of the aisle vaulting. Then we require some details on a larger scale than they come in the general views, as follows: The base of the great pier; the base of the aisle respond; the pier capital, including the whole impost: (1) from the nave side, and (2) from the side of the aisle; the capitals and bases of the aisle responds. In sexpartite

* Notably in the cases of St. Denis and Canterbury, where the written records include enough detailed description of what is mentioned to make it possible to identify the existing work.

systems we require details of both main and intermediate piers, and where the details of piers, bases and capitals differ one from another we need photographs of all.

Of the apse, in addition to a general view, we must have a view of the vault, including the adjoining compartment of the choir vault, looking straight up. We need also details of the ground storey, the triforium and the clerestory, as in the case of the nave. We must also have a view of the apsida aisle, a view of one compartment of the vaulting of this aisle, looking straight up, and where the vaults differ one from another—as they sometimes do—we should have a photograph of each.

Of the exterior, in addition to a general lengthwise view, and a full view of the east and west ends and transept ends respectively, we should have a view of the buttress system, from the roof of the aisle, or from one of the western towers, and a view of the outer buttresses taken from the ground.

Of sculptured enrichment, of all parts, we cannot have too many photographs, both of larger groups and of their details.

While from such photographs a pretty full understanding of a given monument may be had, there are nevertheless some things that we cannot learn from them, as, for instance, the exact forms of the great piers in horizontal section, particularly the relations of the transverse and longitudinal diameters, which may have important structural significance. In the choir of Beauvais, for instance, the pier has an oval section, with its long axis perpendicular to that of the building, materially stiffening it in the direction of the vault thrusts. There are also many irregularities of dimensions of plan and elevation, in almost all parts of a mediæval structure, of which we get no idea from a photograph. But apart from direct study on the spot photographs afford the only information on which reliance can always be placed.

III.

In the use of books the novitiate student should be warned that complete reliance can rarely be placed on them. As I have already said, those that are even fairly trustworthy are very limited in number. In most cases only general notions at best can be got from them. Of a building as a whole, account is commonly taken of general conformation only, save for details of secondary importance. Of essential structural character we seldom get clear, correct, and full information. Take, for example, the well-known work of De Caumont, the *Abécédaire d'Archéologie*, published early in the last century—one of the best-intentioned and most painstaking works, and one on which most of the subsequent English books on mediæval architecture have been modelled. It is hardly too much to say that nine-tenths of this book is taken up with ornamental details, and that none of the types of building mentioned are adequately described as to their fundamental characteristics.

It ought not to be necessary to say that the first thing to be considered in the study of a given monument of architecture is its structural system as a whole. Every æsthetic quality depends on this, and every ornamental feature is conditioned by it. But a structural system can be understood and correctly described only from first-hand examination. Too many books have been made up from other books, and the errors and personal preferences of one writer are too often repeated by others.

A student of actual monuments will soon discover that the architecture of the text-books is often very different from the architecture itself. Books are not seldom incorrect in most important particulars. For instance, most writers on the architecture of the Italian Renaissance speak of the vault of the Pazzi Chapel in Florence as a dome, but it is in reality a mediæval vault of Gothic character, since it consists of deep cells supported on ribs. Its thrusts are thus concentrated on points in the circular drum within which it is enclosed, whereas a dome is an unbroken hemisphere exerting equal thrusts on all points in the circle.* Again, on comparing, some time ago, three German monographs on the Cistercian church of Fontenay, I found the conformation of the vaulting given in as many different ways. Such disagreement of authorities, on plain matters of fact, shows the lack of care in

* That the vault of the Pazzi is a Gothic vault I have shown with illustrations in my *Character of Renaissance Architecture* (New York and London, The Macmillan Company), pp. 27, 28.

Fig. 2. Doorway, Barfrestone Church.
From Ruprich-Robert's *L'Architecture Normande*.

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Fig. 3. Doorway, Barfrestone Church.
From a recent photograph.

observation and description that has too widely prevailed. Even the most competent writers are sometimes careless as to points that may be of great importance. Thus Viollet-le-Duc, in the plan of Reims Cathedral, given on page 316 of the article *Cathédrale*, represents the easternmost choir vault as quadripartite, while in reality it is tripartite, with its groin ribs meeting on the point where those of the apse converge—as at Noyon—an arrangement, as we have seen, of great significance. On the same plan the apsidal chapels are each figured as having a rectangular quadripartite vault interposed between the apsidal vault and the vault of the aisle; but in the two plans of one of these chapels (showing the form at different levels), given to a larger scale on pages 470 and 471, it is represented, I believe correctly, as having a single octopartite vault, with its ribs all converging on the centre of the curve on which the chapel is set out.

And not only do illustrations to even good books in too many cases thus misrepresent important structural features; they also, almost invariably, falsify workmanship. The workmanship of the Middle Ages never has the mechanical character commonly shown in book illustrations. As an

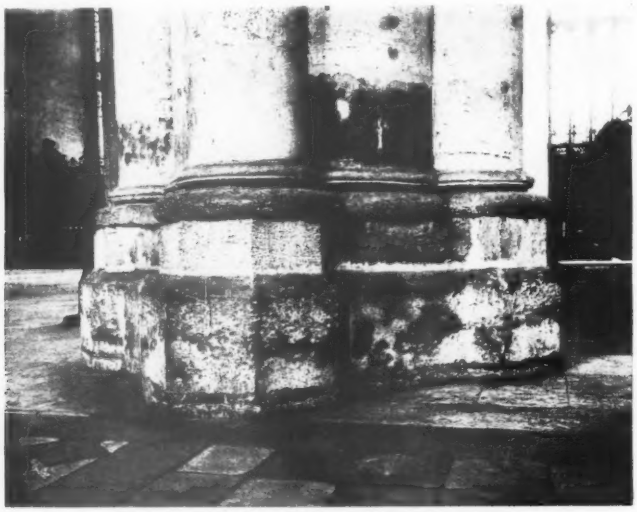

Fig. 4. Base of Pier, Amiens Cathedral.

example of very common misrepresentation we may take (Fig. 2) a reproduction of a print given in M. Ruprich-Robert's important work, *L'Architecture Normande*, representing a doorway of the small Church of Barfrestone in Kent. Observe the perfectly squared masonry of the jambs and the mechanical precision of all the details—shafts, capitals, and sculptured archivolts. Then compare a photograph (Fig. 3) of the thing itself. Observe the noble rudeness and irregularity of the masonry. I say *noble* rudeness, because it is a rudeness natural to free-hand workmanship. Such work has a human expression, and a picturesque charm, of which we get no idea from the mechanically wrought engraving. It is a pity that so much toil of metal cutting should be put into such elaborate misrepresentation, and that prints like this should be so extensively used in books on architecture.

The mark of free-hand execution is constant in the art of the Middle Ages, and we find it in the greatest monuments no less than in those of humbler sort. The mouldings of the bases of the great piers of the nave of Amiens (Fig. 4), for instance, show irregular swellings and depressions of surface, which, though slight, give a human vitality. The same character is marked in the headpiece to this paper, showing a group of capitals from one of the western portals of Rouen Cathedral. It will be seen in this example that the lines of the abacus mouldings are not parallel, and that they are very

rudely mitred. The flat face of the lower member of the middle one, on the left side, has its lower edge noticeably curved upward, so that it is wider at the mitre joint, and at the salient angle, than in the middle. The neck mouldings show the same irregularities, the one on the left being the most marked in this respect, with its left side considerably thicker, and more salient, than the right. Irregularities are everywhere noticeable in the foliate carving too, and these are delightfully expressive both of the sculptor's free-hand and of the subtle inequalities of the natural leaf forms from which the ornamental motives are derived. Though the scheme of composition is symmetrical, no group or detail is precisely so. Rigid symmetries of design are never found either in nature or in the work of the mediæval carver. An instructive comparison between mediæval and modern workmanship is afforded in the flat surfaces seen in this illustration. Those of the jambs to the left and between the shafts are of the twelfth century, while the portion of buttress seen on the extreme right is a bit of modern restoration. The uniform mechanical character of this surface is in marked contrast with the pleasantly varied surface naturally given by the free chiselling of the old work, while the hard lines of the evenly cemented joints of the modern workman—in effect like the lines of a ruling pen—are painful to the eye.

A few examples with measurements will serve to show more exactly the nature of mediæval irregularities of design and construction. In the capital (Fig. 5) from the triforium of Christchurch, Hants, it will be seen that the end of the abacus to the right falls 2 centimetres below the level of the other end, and that this abacus is half a centimetre thicker on the right side than on the left. The neck moulding here, as at Rouen, is of unequal thickness in different parts, measuring $4\frac{1}{2}$ centimetres on one side and only $3\frac{1}{2}$ on the other; while the bell overhangs the face of the shaft on one side and falls within it on the other. The plan (Fig. 6) of the whole opening, drawn to a smaller scale, in which this capital occurs is equally irregular, both in the dimensions of its parts—those on one side not agreeing with the corresponding ones on the other—and in the shaping of them, few of the members being square.

Similar irregularities occur, to a greater or less extent, throughout the entire system of every mediæval monument, and they are often astonishing in extent.* I have given in my *Development and Character of Gothic Architecture* (Fig. 38, page 93) an elevation of one bay of the sexpartite system of the choir of Senlis. A glance at this will show some very marked irregularities. It will be seen that in the triforium gallery the intermediate pier falls considerably to one side of the centre of the double bay, its axis not coinciding with that of the supporting column, so that the vaulting shafts, rising from this column, divide its surface very unequally, and the openings on either side are thereby made unequal in width; while lesser irregularities are noticeable in every part.†

Irregularities are often conspicuous in the great cathedral fronts—in that of Paris, for example, the north tower is wider than the south one—but the crown of the archivolt of the doorway falls lower than that of the south tower, and this archivolt is surmounted by a gabled moulding which has no counterpart on the other side.

These irregularities, so inherent in the free-hand execution of mediæval building, have not been enough observed and set forth in books on this art. The sketchy picturesque illustrations sometimes given in books do not express them truly. Even the work of Prout, though of unequalled pictorial

* A series of articles by Mr. W. H. Goodyear, published in *The Architectural Record* during the nineties of last century, gives many striking examples of such irregularities, in both plan and elevation. Mr. Goodyear has done a good work in examining and illustrating these irregularities so extensively. He has done it with great thoroughness, and the results would in some cases appear incredible were the measurements not given. But Mr. Goodyear's conclusions from the facts he has so carefully observed do not appear to me justified. He thinks that many of these irregularities were intentional, and calls them architectural refinements. One can, however, see no reason for intention, and they cannot be properly called refinements. The systematic and very subtle curves and convergences that have been observed in some ancient monuments—as in the Parthenon—are very different. They are consistent, and so slight as to be almost imperceptible, and may indeed be called refinements. But the erratic and irregular bends, leans and skewings of mediæval building are, I think, for the most part the result of free-hand execution on the one hand and of the thrusts and settlements of time on the other.

† This mechanically drawn illustration gives, of course, no indication of such irregularities of minor details as those just noticed in the triforium of Christchurch.

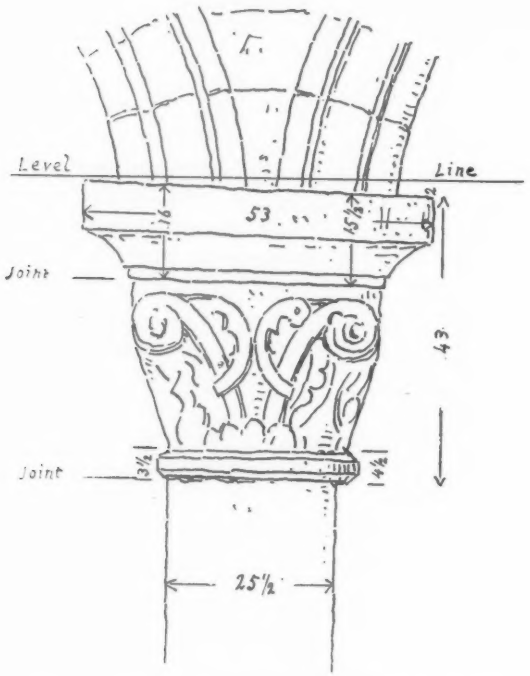

Fig. 5. Capital, Triforium, Christchurch, Hants.

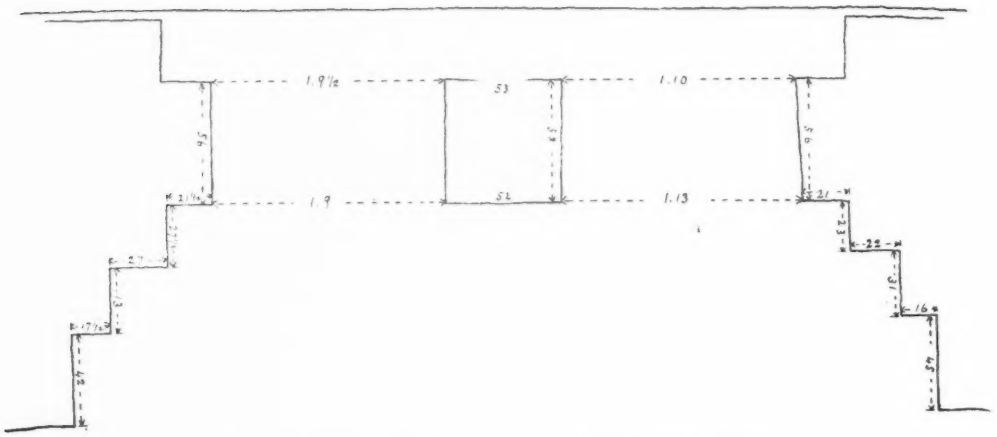

Fig. 6. Plan of Triforium Opening, Christchurch, Hants.

excellence, is of no value to the student of architecture ; since it is picturesqueness, and not architectural character, that mainly interests Prout. There is no reason, however, why illustrations of architecture should not show picturesque feeling, and at the same time convey true information, like the remarkable soft-ground etchings by Ruskin in the first edition of *The Seven Lamps of Architecture*. As to book illustrations of architectural sculpture, only process reproductions of photographs are entirely trustworthy ; for, however skilful and conscientious a draughtsman may be, his personal feeling will more or less modify the conventions and archaisms of the mediæval carver.

The primary value of the study of mediæval architecture lies in the fact that it represents a great phase of human activity. The study of this art is the study of man in the exercise of some of his higher emotional and imaginative faculties. From this point of view it should appeal to all men of feeling and intelligence. As a discipline for the practising architect it is of great importance ; but, like the study of all other art of the past, it is for discipline and inspiration only that it can be of use to the modern practitioner. Mediæval architecture is not to be copied. True art is always an outgrowth of prevailing conditions, and conditions are ever changing. Creative workmen in the past have designed in the current styles of their times and localities, and, while borrowing freely from whatever has stirred their imagination and was suited to their needs, they have never based their practice on archæological study. Builders naturally, in proportion to their inventive powers, modify more or less creatively what they derive from foreign sources, and creative changes gradually transform living styles of architecture ; but the discerning student will discover that changes in mediæval architecture were not always of a creative kind, and that he will need to discriminate. He must constantly exercise a critical spirit, and his critical judgments, in respect to structure, must be based on reason and comparison. Common sense will teach him that irrational combinations are incompatible with creative design, and he will be safe in taking structural logic as a primary test of progressive art. On the æsthetic side the grounds of judgment are not so simple, for the quality of beauty involves spiritual principles that elude complete analysis. The sense of beauty lies in the domain of feeling, rather than of reason, and apprehensions of beauty are qualified by temperament and experience ; but common perception will, I think, teach that beauty is incompatible with what is false, and that truth is its necessary concomitant, if not its only criterion. But truth in architecture does not mean likeness to anything else ; it means consistency of principle, and adaptation to function in every part, whether structural or æsthetic. Even in carved ornament derived from vegetable and animal life truth does not mean verisimilitude. It means appropriate expression of abstract qualities of beauty in living things, and such expression involves conventions that fundamentally differentiate the forms of architectural ornament from those of nature, however much they may be expressive of nature.

While I have been writing the shells of German guns have been crashing into some of the noblest French monuments of the Middle Ages, and much of the world's priceless heritage of human art is gone for ever. The Cathedral of Reims will never be seen again, save as a mutilated ruin, or, what is worse, a so-called restoration. Such emulation of the spirit of ignorant savages in warfare will not add lustre to the German name.

REVIEWS.

EGYPTIAN ARCHITECTURE.

The Architecture of Ancient Egypt, a historical outline. By Edward Bell, 8*o. Lond.* 1915. 6*s. net.* [*G. Bell and Sons.*]

This book will supply a long-felt want of a general review of Egyptian architecture. As a whole the work has been efficiently done, and is well illustrated. When a subject has been so neglected as this has, and no hand-book has appeared dealing with its various aspects, it would not be fair to expect the highest results from a compiler—however able—who has filled the empty place. As this book will certainly be a general reference book, it is desirable to point out some of the corrections that are required.

In architectural detail it should be noted that the rock-hewn temples of Nubia are only the inner shrines, in front of which there was originally a built forecourt and pylon; thus the rock excavation was a quarry for obtaining the building material. The temple system is not to be regarded as derived from the tomb (p. 101); on the contrary, the temple was the house of the god, and each part of it directly copied from the house plan, as Maspero long ago demonstrated. The temple service was likewise a direct copy of the domestic service of a great noble, as Moret has shown. The historical order of the two types of temple is overlooked; the boat-shrine temple was a temporary resting place, open fore and aft, and with a colonnade round it, as a processional way; this was the earlier type, superseded in the later times by the closed shrine and fixed statue. The use of timber houses in early times is only inferred (p. 86), while the actual house timbers have been found, and the construction ascertained in detail. (*Tarkhan* i. pl. ix.) But little is said about the pottery house-models, which illustrate all the details of domestic construction; they should be quoted from the long series in *Gizeh and Rifeh*. The earliest palm column (p. 37) is wrongly figured with a taper of 3 : 2; it really only tapers as 5 : 4. The restoration by Mariette of pyramid tombs at Abydos (p. 49) is entirely unsupported by excavation there, which showed that mastaba-shaped blocks were the real form.

The whole question of imitative forms is dealt with uncertainly. On pp. 69 and 86 the copying of wooden structures in stone is taken as obvious; yet on p. 66 objections are raised to such descent of forms. The mastaba form is quoted as an objection to a cavetto cornice being derived from structure, and it is compared to a dripstone. But the mastaba was copied from an earth and brick mound, to which no cornice would be applicable; and the cornice appears on the imitations of wooden structure, both sarcophagi and panelled false doors. The objection raised to Egyptian architecture as a whole (p. 200), that it "has a kind of barbaric luxuriance," is completely contrary to its original types, and only true of its most degraded forms. In all the early periods, its grand simplicity and stern majesty equals that of the severest Doric style. We might as well denounce all Gothic architecture for the faults of the late Perpendicular style.

From the historical point of view the four reasons stated for an African, and therefore degraded, influence in Egyptian art, are none of them to be accepted. (1) The people of Punt were not in the least negro, but of a delicate and refined type. (2) The religion is no more fetishism than the worship of sacred trees of Northern races, or the sacred stones of Ephesos, Pessinos and Emesa. (3) The original architecture—as we have just noticed—is marked by severity, accuracy and refinement. (4) The physiognomy is of the highest European type in early times, and shows no negro traces till after the XVIIth Dynasty invasion from the south. Similarly, the faults assigned to Egyptian architecture (p. 198) are none of them to be found for two thousand years, and only belong to a decadent age. The strange dictum is given (p. 22) that the great Naqada tomb is the only royal tomb of the Ist Dynasty; the whole of the royal tombs of the Dynasty are fully published from the Abydos cemetery, and the writer seems to have been misled by an astounding piece of special pleading of Mr. Hall.

In archæology we should note that round buildings are not by any means "in accordance with an elementary instinct" (p. 6), but result from economy of labour and material when long timber is not in use. Where timber is used, as in Polynesia, there square building is primitive. The boats painted on prehistoric vases can by no means be taken for a pylon and palisade (p. 12); as many are unquestionably boats, the rest follow suit. The worship of the sacred bull at Memphis is certainly of a much earlier stratum of the religion than the worship of the abstract god Ptah, and cannot have succeeded it (p. 18). The black granite statues on which the Hyksos kings have often inscribed their names (p. 75) are agreed on all hands to be earlier than the Hyksos, and cannot be quoted as their sculpture. The "wooden models of ships, houses, soldiers and artisans" are not later than the XIIth Dynasty, and were extinct long before the age to which they are assigned (p. 78). Enamel in jewellery is entirely unknown until Roman times; all the earlier work is of cut stone or paste, inserted by hand in cloisons.

Throughout the volume there is an unfortunate dependence on two or three popular hand-books, which necessarily contain but an incomplete view of the subject, as architecture is only one of many matters to which they refer. In the bibliography given there is not a single original account of material of the last seventy years. Second-hand statements, brief and often inaccurate, are referred to instead of the abundant original publications. This affects the handling of the subject, and prevents the book serving as a guide to the real sources for reference and study. With systematic references to the original authorities, and a revision of various oversights, this book would serve as a text-book for long to come.

W. M. Flinders Petrie [*Hon. A.*].

9 CONDUIT STREET, LONDON, W., *4th December* 1915.

CHRONICLE.

R.I.B.A. Record of Honour: Twentieth List.

Killed in Action.

KAY, GEORGE ALEXANDER [*A.*], 2nd Lieut., Sherwood Foresters, 2nd Notts & Derby Regiment. Killed in action at Hooge on 9th August.

Publication is kindly permitted of the following extracts from a letter to Mr. and Mrs. Kay, of Hilary Park, Douglas, from their son, Lieut. J. Kay, brother of the late Lieut. G. A. Kay, and of the same regiment:—"The action of the 9th August was most successful . . . and the credit for this (in his section of the line) was due in no small degree to Alec's pluck and determination. The orders were for the battalion to charge and take three lines of trenches. We bombarded these trenches for some hours, and at a signal, given by the explosion of a mine under the first trench, we were to charge and take them. Just before the signal was given Alec was slightly wounded in the head by shrapnel. He was pressed to go back to the dressing station, but insisted on remaining with his men, and had his wound tied up. Almost immediately the order to charge was given. He was about the first out of the trench, and led his men across the open through a storm of shrapnel, bombs, machine-gun and rifle fire, so intense that it was a marvel that any survived. However, in an incredibly short time the three lines of trenches were in our hands with comparatively slight losses. During the charge Alec was again slightly wounded by shrapnel on the right jawbone. While in the third trench he was again pressed to go back, but refused, and proceeded with the work of collecting his men and setting them to build up the trench to face the other way. After about an hour his captain again urged him to return, but he seemed determined to remain, and was quite lively. At about 8 a.m., while his servant was refixing his bandages, a rifle bullet struck him in the temple and passed clean through his head. He neither spoke nor moved again, and died a few minutes later."

Major S. Clifford Clarke, writing to the bereaved parents on behalf of Colonel H. A. R. May, C.B., the Officers, N.C.O.'s and men of the Artists' Rifles, says:—"It must be some slight consolation for you to feel that he died leading men of one of the finest regiments in the British Army; also that he will not be forgotten by his old corps: his name will live for ever in our Roll of Honour."

Lord Raglan, Governor of the Isle of Man, writes:—"The glorious death of your gallant son must always cause you both the greatest pride, and the thought of his magnificent bravery will sustain you. The country can ill afford to lose officers of his stamp, yet one knows that many must die as he did for all that we hold most sacred. May this be some consolation to you both in your affliction!"

Died of Wounds.

FROMANT: EDWARD GEORGE DAWSON [*Probationer*], Lance-Corporal 1st City of London Sanitary Company R.A.M.C. Died of wounds at Ypres on 16th March, in his twenty-second year.

Mr. E. G. D. Fromant was the only son of Mr. and Mrs. H Fromant, of Hadleigh, Suffolk. On the completion of his articles with Mr. J. W. Start, F.S.I., of Colchester, he entered the office of Messrs. Blackwell & Riddy, of Kettering, and was entrusted with an important drainage scheme at Kettering Union. He passed the R.I.B.A. Preliminary Examination in 1910 and the Professional Associateship Examination of the Surveyors' Institution. Joining the Army at the end of last year he left for the front on the 17th January with a small section in charge of Lieut. Draycott. While carrying out certain duties at Ypres on the 16th March he was wounded by a shell and died a few hours afterwards. He was interred on the ramparts at Ypres.

GIBSON, EDMUND HERBERT [*A.*], Lieut., Royal Naval Volunteer Reserve. Severely wounded at the Dardanelles on 23rd October, and died two days later. Aged twenty-seven.

Lieut. Gibson was the youngest son of Dr. Gibson, of Beech Grove, Harrogate. After leaving school he studied for one year in the Engineering and Art Departments of Leeds University, and for one year at the Leeds School of Art. He served his articles with Messrs. Cannon & Chorley, of Leeds, and remained with them for two years as assistant. He was afterwards in the office of Mr. Oldrid Scott, of London. In 1912 he gained *The Architect* studentship, and several of his sketches were published. In 1914, while with Mr. Scott, one of his drawings was exhibited at the Royal Academy. On the outbreak of war he joined the R.N.V.R., and in February was appointed Sub-Lieutenant, being sent down to the camp at Blandford with 160 men to prepare roads. He went to the Dardanelles in June, and was gazetted Lieutenant from the 18th October. An elder brother of the late Associate is a Captain in the 15th Battalion West Yorkshire Regiment.

Wounded and Mentioned in Dispatches.

HONAN, MATTHEW [*A.*], Captain, 1st South Lancs Regiment. Wounded at Gallipoli; invalided home, and attacked with enteric fever on arrival.

As reported in the last issue, Captain Honan was specially mentioned in Sir Ian Hamilton's Dispatch of the 22nd September for services at the Dardanelles.

Enlisted in H.M. Forces.

The following is the Twentieth List of Members, Licentiates and Students who have joined the Army or Navy, the total to date being 49 Fellows, 363 Associates, 188 Licentiates, and 234 Students:—

FELLOWS.

Dickson, G. A. H.: Lieut.-Col., Worcester Regt.
Dinwiddy, T. N.: Sub-Lieut., R.N.V.R.
Naylor, J. J. S.: H.A.C. (Reserve).

ASSOCIATES.

Armstrong, C. T.: Sub-Lieut., R.N.V.R.
Ayrton, O. Maxwell: Flight Sub-Lieut., R.N.A.S.
Briggs, Martin S.: Lieut., R.A.M.C. (T.).
Bruce, Reginald: Artists' Rifles, O.T.C.
Evans, A. F.: Lieut., 2/5th Royal Welsh Fusiliers.
Isaac, W. J.: O.T.C., Engineer Unit.
Morley, Eric: 2nd Lieut., R.E. Services.
Slater, J. Alan, mentioned in a previous list as of the Public Schools O.T.C., has been gazetted 2nd Lieut., 183rd (Howitzer) Brigade, R.F.A.
Williams, Llewellyn E.: Artists' Rifles, O.T.C.

LICENTIATES.

Cuthbert, D. M.: Highland Fife (T.) R.G.A.
Sands, Hubert C.: 2nd London Sanitary Co., R.A.M.C.
Townsend, C. W.: Army Cycle Corps.

STUDENTS.

Andrews, C. D. : 238th (Army Troops) Coy., R.E.
Edwards, J. Ralph : 2nd Lieut., Glamorgan R.G.A.
Jefferies, Frank E. : 14th Rifle Brigade.
Palmer, Kenneth : E. Lancs R.A.M.C. (T.).

The late Sir Schomberg McDonnell.

At the General Meeting last Monday reference was made by Mr. E. Guy Dawber, *Hon. Secretary*, to the death from wounds of Major the Hon. Sir Schomberg McDonnell, who held the post of Secretary to H.M. Office of Works from 1902 to 1912. Sir Schomberg had served as Chief Intelligence Officer to the London District Command, but resigned this position three weeks ago and went to the Front, in Flanders, to serve with the 5th Cameron Highlanders. He received a serious scalp wound from shrapnel in the trenches on Saturday, 20th November, and died on the following Tuesday. Sir Schomberg was a man of pronounced artistic tastes. As Secretary of the Office of Works he brought about many improvements in the Royal Parks, where he could be met at all hours of the day seeing that the Department's instructions were properly carried out. He was a great lover of trees and flowers, and introduced into this country a novel French invention for the transplanting of trees. He had much to do with the work in connection with the Victoria Memorial, and was the moving spirit in the arrangements for the investiture of the Prince of Wales at Carnarvon Castle. Mr. Dawber said that during Sir Schomberg's term of office the Institute had been brought into close relationship with him, and he had on various occasions honoured them with his presence at their Annual Dinners. The Council, he continued, recalled with feelings of appreciation the many instances afforded them of Sir Schomberg's cordiality and goodwill towards the Institute. The meeting resolved that a message expressive of the Institute's sincerest sympathy should be forwarded to Lady McDonnell.

Architects and War Profits.

The following reply has been received to the letter addressed from the Institute to the Chancellor of the Exchequer calling attention to an apparent ambiguity in Clause 35 (*c*) of the Finance Bill, 1915 [*see* JOURNAL R.I.B.A., 6th November, p. 10] :—

Treasury Chambers, Whitehall : 22*nd Nov.*, 1915.

To the Secretary, Royal Institute of British Architects,—

DEAR SIR,—In reply to your letter of the 25th ultimo, I am desired by the Chancellor of the Exchequer to inform you that it is not intended that profits arising from the exercise of a profession, the remuneration of which happens incidentally to be calculated on a percentage basis, should be included in the scope of Excess Profits Duty.

Yours faithfully,
H. P. HAMILTON.

The Alma-Tadema Memorial.

A Committee of the friends of the late Sir Lawrence Alma-Tadema, with Sir Edward J. Poynter as chairman and Mr. Frank Dicksee, A.R.A., as honorary secretary, have purchased his art library, which has now been handsomely installed as the Alma-Tadema Memorial in two wings of the West Room (No. 74) of the Art Library at the Museum, by consent of the Board of Education and with the active co-operation of the Director, Sir Cecil Smith. The two Misses Tadema handed the collection over to the committee for just one-half the amount they were offered by the authorities of a big public library in Germany, and have presented Onslow Ford's fine marble bust of their father, which stands on a pedestal designed by himself, and now forms a sort of a centrepiece of the Memorial.

Sir Lawrence was a keen collector of " documents " during the whole of his career. Many in the collection were purchased by him during the 'sixties. There are 163 portfolios, which contain between five and six thousand photographs, drawings, and tracings. These, in their turn, are classified in a most methodical manner. Other portfolios deal with the many details of architecture, while costumes—Assyrian, Greek, Roman, &c.—form, as would be expected, a very extensive and valuable feature of the collection. Five portfolios deal with the gods of classical and other mythology. Temples, theatres, amphitheatres, lamps, and candelabra, Greek, Roman, and Egyptian portraits constitute other varied and interesting features. Sir Cecil Smith has had a very elaborate synopsis drawn up of the contents of these many volumes, and any one subject can be referred to without delay.

The Alma-Tadema library of printed and illustrated books consists of several thousand volumes. A complete catalogue has been prepared and when funds are forthcoming it will probably be printed. Among the books there are many not hitherto represented in the Library of the Museum ; a good many are duplicates, but these are welcome, for they enable the copies of books already in the art library to be circulated in various departments of the Museum and elsewhere.

One of the conditions of the Memorial was that the whole of the Alma-Tadema collection should be preserved together, and this condition has been strictly observed.

At the inauguration of the Memorial, which took place at the Museum on the 24th November, H.R.H. Princess Louise presiding, Sir Edward Poynter, P.R.A., said that the library had been purchased at a cost of £1,000—though it had been valued for probate at three times that figure—as a gift to the nation by the numerous friends and admirers of the great artist, prominent among whom was Princess Louise. In the Victoria and Albert Museum it would be readily accessible to artists and students of art and archæology.

Princess Louise said she had great pleasure, on behalf of the subscribers and the artist's two daughters, in presenting to the nation the library, valuable drawings, and studies of such a great man's work. She felt that students would have his spirit working with them,

and that he would still go on teaching them as he loved to do when he was there.

Lord Curzon said that the library represented the tastes of the man who formed it, and that Museum seemed to be its natural home. He regretted that the works of the gifted artist were not to be found in any number in the great national collections, and he expressed the hope that the idea might occur to some generous person in the future to present more of his works to the nation.

The Society of Dilettanti's "Antiquities of Ionia."

The Society of Dilettanti are publishing shortly, through Messrs. Macmillan & Co., Part V. (being a Supplement to Part III.) of *Antiquities of Ionia*. Professor W. R. Lethaby, who has edited the new volume, explains in an Introduction that the plates now published in this volume for the first time were engraved between 1820 and 1840 from the drawings made by the members of the Second Ionian Mission sent out by the Society of Dilettanti in 1811.

These engravings (says Professor Lethaby) were to have been issued in a companion volume to Part III. of the *Antiquities of Ionia* which was published in 1840. It was delayed, however, by the death in 1839 of William Wilkins, R.A., who had been the architectural expert of the Society from the time of the Mission, and was acting as editor of the work. While thus set aside for a time, other links with the past were broken and new interests arose. Fellows travelled over the same ground again in 1838, and in 1846 Penrose made his proposals to the Society for his survey of the monuments of Athens which was conducted by him according to fresh ideas of scientific accuracy. The engraved plates were thus forgotten until a set of proofs of them were given by the Society in 1912 to the Royal Institute of British Architects, together with many of the original drawings. It was then pointed out that these engravings had never been published, and on an enquiry being made as to the existence of the plates they were found in the custody of Messrs. Ross, the copper-plate printers.

Although during the continuous research of a century most of the monuments represented in these engravings have now been otherwise published, it seems desirable from many points of view to make the plates known. They form a further record of a remarkable phase of English scholarship when we led the way in the search for classical antiquities; they complete the important work which was carried on for so long a time by the Society of Dilettanti; they represent the monuments as they were a century since, some of them having been injured or destroyed in the meantime; and the plates themselves are excellent examples of the fine work which was being produced by our engravers in the now curiously remote period, the first half of the nineteenth century.

The most important monument dealt with is the great Temple of Artemis at Magnesia, one of the most famous examples of Hellenistic architecture, and a work to which Vitruvius referred as being the very standard of his art. It has even been forgotten that this temple, like so many of the ruins of Asia Minor, was first excavated by an English party, and the delicate engravings of the very beautiful capitals and bases of the Order will be found the most adequate presentments of them which have been published. Most of the rest of the plates illustrate the remarkable monuments of Myra and of other Lycian cities.

The Society of Dilettanti has from time to time presented the original works of art which it had collected to the British Museum, together with most of the drawings made for its various publications. The drawings given in 1912 to the Royal Institute of British Architects were the whole of those remaining in the possession of the Society so far as architecture is concerned. They comprise the originals of most of the plates now published, together with many others from Myra and Telmessus which have not been engraved; there are also a large number of drawings made by Revett, Bedford, and others for the earlier volumes of the *Antiquities of Ionia* and for the *Unedited Antiquities of Attica*.

It may be remarked here, as showing what serious undertakings the old volumes of engravings published by the Society were, that each of the pictorial views included in the present volume cost about £120 to re-draw and engrave.

In a minute of a meeting of the Society held on 4th April 1875 to promote the publication of the results of the further missions to Asia Minor, undertaken for the Society by Mr. Pullan between 1866 and 1869, it was stated that nearly £2,000 had been spent in the acquisition of the new material, and that a further sum of £850 to £1,000 was required for engraving and printing the Fourth Part of the *Antiquities of Ionia*. It was added: "When it is remembered that up to the year 1852 the moneys expended by the Society of Dilettanti for the promotion of Art and Archæology—and for that alone—amounted to upwards of £30,000, this Society cannot but feel confident that Members will show the same alacrity as before in furthering the objects, and fostering the renown, of the Society of Dilettanti."

In May 1913, at the instance of the Society of Dilettanti, the Institute guaranteed the sum of £50 towards the cost of producing the new volume. The publishers announce that subscribers in advance of publication may obtain copies at three guineas net, but on the day of publication the price will be raised to four guineas net. Members of the Society of Dilettanti, however, are offered the book at two guineas net, and 50 copies at this reduced rate have been placed at the disposal of members of the R.I.B.A.

Classic Architecture in Russia.

Mr. A. E. Richardson [*F.*] contributes to the current number of the *Architectural Review* the first of what promises to be a very notable series of articles dealing with Classic Architecture in Russia during the eighteenth and nineteenth centuries. To those whose impressions of Russian architecture are based upon the bulbous-domed churches, a medley of elements Byzantine, Tartar, Turkish and Persian, which give so peculiar a character to some of the old Russian cities, the buildings so splendidly illustrated in Mr. Richardson's article will come as a revelation. The Bourse, Petrograd, which occupies a fine site on the banks of the Neva, and which was built at a period contemporary with the Madeleine in Paris, the author describes as reminiscent of the mighty Doric Temple of Poseidon, at Pæstum in Italy, but it does not plagiarise a single feature of the Greek colonial prototype. Owing to the difficulty of obtaining good building stone in the vicinity of Petrograd, De Thomon, the architect, was compelled to employ brick and stucco for the major portions of the building. He profited by the rich decorative effect given by the usual treatment of stucco in Petrograd, and made a contrast in colour between the white of the columns, the architraves, cornices, keystones and triglyphs, and the delicate grey tint of the metopes, the general wall surface, and the spandrels of the arch in the pedimented

attic. Among other buildings described and illustrated in this article are the Admiralty, Petrograd, and the cathedrals of Kazan and St. Isaac. Mr. Richardson promises to deal in future articles with the palaces and country houses, and to treat of the modern aspirations of the architects of Russia.

The Ruin of Arras.

The Times special correspondent, writing from British Headquarters on the 7th November, and describing the condition of Arras, says :—

After the appalling desolation and ruin of Ypres, the town does not at first appear to have suffered so terribly. But this impression is more superficial than real. There are streets, such as the Rue des Grands Viziers, which rival even the famous Rue d'Elverdinghe in Ypres. The Cathedral, always the favourite target for a German gunner, has been shattered beyond repair, and such portions of the roof as still remain hold on precariously to the split pillars of the nave. Even the famous angels, which escaped so long, have now been brought down and lie amidst the piles of white masonry on the cracked pavement, inextricably heaped up with boulders of cornices, vaulting, and walls.

The old Archbishop's Palace by the side has suffered less, but the handsome private chapel is a pitiful wreck, and not one of all the beautiful stained-glass windows but lies in shattered fragments on the floor or in the courtyard outside. The Hotel de Ville, with its famous belfry, is even more pitiable than the photographs have shown it to be, and one cannot see the *pavé* round the sides owing to the piles of that exquisitely wrought masonry that made this one of the most famous buildings in the world. The huge new station is almost fantastic in its ruin. A time-table, dated 15th August, 1914, still adheres to the wall of the buffet and announces the hour when the last train for Paris will leave the town. Vauban's famous citadel, nicknamed the *Belle Inutile*, justifies the second as completely as it gives the lie to the first of these two epithets.

Lectures for Belgian Architects.

The Belgium Town Planning Committee have arranged a new series of lectures for Belgian architects and engineers, taking place at University College, London, on Thursdays in each week. Among those who are giving their services are Colonel R. E. Crompton (Consulting Engineer to the Road Board), Mr. G. Midgley Taylor, Mr. George L. Pepler, Mr. W. R. Davidge [*F.*], Mr. Raymond Unwin [*F.*] (Chief Town Planning Adviser to the Local Government Board), Mr. Aneurin Williams, M.P., Professor Patrick Abercrombie [*A.*], and Professor S. D. Adshead [*F.*].

Town Planning after the War.

The first national conference of housing societies and societies of public utility was held on the 19th November in London, under the auspices of the Garden Cities and Town Planning Association, with the object of providing for housing on town planning lines after the war. Mr. Cecil Harmsworth, M.P., presided, and representatives of 61 societies from all parts of England, Scotland, and Wales were represented. The questions discussed included the relations of housing societies to public money combines in the building industry, the co-operation between municipalities and public utility societies in future, and the amendment of the law to allow local authorities to invest in such societies. It was agreed that the best time for taking action would be " so soon as the end of the war could be seen approaching." A committee was formed representing the whole of the groups interested in the scheme.

Reconstitution of the Library of Louvain.

The General Purposes Committee of the London County Council report that they have had before them a letter from the British Academy stating that, at the instance of the Institute of France, the Council of the Academy have expressed their willingness to initiate a movement towards the formation of a British committee to assist in the reconstitution of the Library of Louvain, and inviting the Council to nominate a delegate or delegates to serve on the proposed committee. The Local Government, Records and Museums Committee expressed the opinion that, having regard to the influential character of the proposed committee, the Council should accept the invitation, it being understood that the representation of the Council on the committee is not to be taken as committing the Council to any financial liability. The London County Council at their meeting on the 23rd November adopted a recommendation that the Council's representatives should include the Vice-Chairman of the Council (Major Ernest Gray) and the Chairman of their Records and Museums Sub-Committee (Mr. Andrew T. Taylor [*R.F.*]).

The Institute of Arbitrators.

The Institute of Arbitrators, the first number of whose organ is just issued, under the title *Journal of the Institute of Arbitrators*, was founded on the 1st March 1915, at the instance of members of those professions whose services are usually invoked for the purpose of acting as Arbitrators in commercial matters, in references under partnership agreements, building and other trade contracts. The aim of the Institute, the *Journal* says, is " to raise the status of Arbitrators to the dignity of a distinct and recognised position as one of the learned professions." As means to this end it is proposed to hold meetings for the reading of Papers connected with the duties of arbitrators ; to promote a study of the law and practice relating to arbitration and awards ; to consider, originate, and support improvements in the laws relating to arbitration ; to provide means for testing the qualifications of candidates to membership by examination in theory and practice ; to form a library for members, and to provide a hall and rooms for the holding of arbitrations ; to promote and encourage the practice of the settlement of disputes by arbitration ; to promote, or join with any other body in promoting, any Act of Parliament, or for procuring the grant of a Royal Charter with a view to the attainment of any of the above objects. The Institute is open for the enrolment of members possessing the necessary training and experience in the professions of Consulting, Civil,

Mechanical, Electrical and other Engineers, Architects, Surveyors, Accountants, and similar professional bodies. There are two classes of members, "Fellows" and "Associates," and the Council has power to admit to these classes until admission is prescribed by examination. The members of the Council, it is stated, have been selected with a view to rendering the Council thoroughly representative of the professions to which the Institute is intended to appeal. Lord Headley, M.Inst.C.E.I., is President, and Mr. Henry Adams, M.Inst.C.E., Vice-President. Architects on the Council include Messrs. Max. Clarke [*F.*], E. C. P. Monson [*F.*], Edward J. Sadgrove [*F.*], and H. D. Searles-Wood [*F.*]. The *Journal* of the Institute is to be issued quarterly. The first number contains among other matters short articles on the subject of Arbitration and a digest of recent cases affecting arbitrations which have been decided in the High Court. Further particulars may be had from the Secretary, at the offices of the Institute, 32 Old Jewry, E.C.

British Columbia Timber.

From the office of the Canadian Trade Commissioner has been received a copy of a pamphlet entitled "British Columbia Timber," recently published by the Forest Branch of the Government of British Columbia, with the object of attracting increased attention to the qualities of Douglas Fir and other British Columbia timber. British Columbia occupies the northern central section of the 2,000 mile continental forest belt of the Pacific Slope. The stand of merchantable timber in the Province is estimated to reach the total of 400,000,000,000 feet board measure, and the annual cut is at present in the neighbourhood of only 1,500,000,000 feet board measure. The forests can supply indefinitely a yield considerably greater than that. The Forest Branch of British Columbia supplies exact information on the strengths and other qualities of British Columbia woods, the uses to which they are adapted, and the general run of prices and stocks obtainable. The pamphlet gives an interesting description, with illustrations, of the principal export timber trees, their qualities and uses, together with a table showing the comparative strength values of some of the principal structural timbers of North America. It is claimed for Douglas Fir that no other one species exists in such great individual sizes, such excellence of quality and such vastness of quantity. With the exception of the Sequoias of California, it is the world's largest timber tree. The average height is 150 to 225 feet, with a diameter of 3 to 6 feet; some trees run to 300 feet in height and 15 feet diameter. Owing to its great strength, durability, lightness, cheapness and size, Douglas Fir is stated to be pre-eminently suited for all dimension material, beams, joists, scantling planks, and boards needed for any purpose in any kind of building, whether exposed or not to the weather. It is extensively used on the Pacific coast of America for window sashes, doors and flooring, and is especially attractive for parquetry floors. It is the favourite panel wood on account of its beautiful grain and figuring when slash-cut or veneer-cut, and because it takes stain so well. Its use in furniture is steadily growing, especially for store, office, hotel and church furniture and fixtures. Other woods recommended are Western Hemlock, Western Larch, Tamarac (or Eastern Larch) and Norway Pine; and details are given of their preservative treatment for special service.

Since the above was written two further booklets have been received from the Canadian Trade Commissioner—viz., (1) "How to Finish British Columbia Wood," and (2) "British Columbia Red Cedar Shingles." The first of these is designed to bring to the attention of architects, wood-finishers, builders, and prospective home-makers the desirability of selecting British Columbia woods for interior finishing of their homes, offices, and other buildings. It also gives instructions as to how the wood should be surfaced, stained, varnished, or painted. Photographic illustrations are given of some very charming interiors decorated entirely in wood—Douglas Fir wall panels, ceiling panels, and flooring; Western Red Cedar ceiling panels; Western Hemlock panels, staircase, mantelpiece, and flooring; natural-finished beam ceilings in Cedar, &c. The second pamphlet shows what can be done with Red Cedar Shingles in exteriors. The North American Indians used Red Cedar for their dug-out canoes and totem poles. Some of the latter still stand in various parts of British Columbia as sound to-day as when they were put in over two hundred years ago. The resistance of Red Cedar to decay is emphasized by the perfect condition of the roof of an old block-house, of which an illustration is given, which has been exposed to the elements for over half a century. Many of the cedar trees found in British Columbia are over a thousand years old and are still sturdy and strong. One of the chief characteristics of the Red Cedar Shingles is the fact that they are sawn "vertical grain." This causes them to lie flat and stay flat, making a smooth, fine roof which the hardest driven snow or rain cannot get under. After the rain and snow comes the heat, but it is claimed that no amount of heat will cause a vertical-grain-cut shingle to warp, twist, crack, or crumble. An illustration is given of a whole terrace of very attractive-looking houses built entirely in Red Cedar Shingles, and of a large and substantially built country house in the same material. To get the utmost wear out of the shingles they must be laid with galvanized or the old-fashioned iron cut nails; or, better still, with zinc or copper nails.

The Canadian Trade Commissioner has kindly offered to forward copies of these pamphlets direct to any member wishing to have them. His office is at 73 Basinghall Street, E.C.

Painting and Prevention of Rust.

The *Zentralblatt* draws attention to a series of experiments conducted by Liebreich and Spitzer to de-

termine the effect of the number of coats of paint on the rate of rusting of iron. They polished four iron plates and painted them—the first with one coat, the second with two, the third with three, and the fourth with four. The plates were then exposed to steam for one day. The paint was dissolved off and the following distinct results noted :—

The iron under the single coat was bright all over, that under two coats was partly rusted, that under three coats rusted still more, while the iron under the four coats was covered with rust. This experiment shows that several coats of paint do not protect as well as one coat.

The explanation of this is that subsequent coats of paint or varnish tend to dissolve part of the previous coat. This has the effect of loosening the previous coat and making it porous, the porosity increasing with the number of coats. Air and moisture penetrate the pores and the iron below is rusted.

Where rust is feared, the coat of paint or varnish is usually made too thick, and the application of a second and third coat naturally does no good. The proper procedure is to remove all old paint by using the sand blast, solvents, etc., and then give the clean iron surface a single coat of the paint or varnish.

Architectural Association Active Service Committee.

The A.A. Active Service Committee commenced its work in connection with the A.A. War Service Bureau in October, 1914, its objects being (1) to provide necessities and extra comforts for men connected with the architectural and surveying professions generally who are serving with the Colours, and (2) to look after the wives and dependants of the mechanics who have been recruited from the building trades through the A.A. War Service Bureau.

In their report issued exactly a year after the Committee was formed, it is stated that since October, 1914, they have sent many necessities and extra comforts to men connected with the architectural and surveying professions generally (including a number of men from the building and allied trades), who are fighting for their country all over the world. The Committee have also visited many of the families left behind, and have been able to give assistance and advice where needed.

In the twelve months dealt with in the report more than 1,250 parcels were despatched, which, with very few exceptions, have been safely received and gratefully acknowledged. The contents, which have varied with the seasons, have included flannel shirts and woollen goods of all sorts, towels, soap, handkerchiefs, fly-nets, sun-protectors, "housewives" (designed by a member of the Committee and much appreciated by the men), dubbin, bootlaces, cigarettes, tobacco, pipes, igniters, shaving soap, toothbrushes, candles, condensed milk, cocoa, coffee, potted meats, tinned fruits, cakes, sweets, lemonade, chocolate, and also quantities of games.

A gramophone and a concertina, which were specially asked for, were given by friends as soon as the need was made known. Very large numbers of magazines and professional papers have been and are being despatched each week, which are much appreciated by the recipients and are read and passed on until they fall to pieces.

The number of names on the parcel list increases as the different regiments are sent abroad. Besides the men in France, Flanders, India, Malta, and Egypt, there are now many in Gallipoli who write and ask for anything the Committee can send them. They ar especially glad of parcels in a country where no extra comforts can be procured, and where even water is sometimes scarce.

The funds are now very low, and it will be impossible for the Committee to carry on their work without further help. They, therefore, earnestly appeal for subscriptions and gifts of woollen articles, cigarettes, magazines, and light books.

As the Committee have the use of the premises of the Architectural Association, there are no working expenses beyond the cost of postage. With another winter to be faced, the possibility of having to cease sending parcels, which are so much looked forward to, will not bear contemplation.

All cheques and parcels will be gratefully acknowledged and should be sent to Mrs. Maurice Webb, 18, Tufton Street, Westminster, S.W.

The various letters quoted in the report as samples of some hundreds, show how much the work of the Committee is appreciated. With the continually increasing numbers of architects and surveyors joining the Forces, the work of the Committee is likely to extend considerably.

CORRESPONDENCE.

Alien Enemy Members.

Moncton, N.B., Canada : 12 *Nov.* 1915.

To the Editor, JOURNAL R.I.B.A.

SIR,—I have just received the last publication of the JOURNAL, and read the two letters therein from W. E. Vernon Crompton and G. Scott Cockrill, on the question of alien members.

I am far away from home, where no doubt feeling runs higher than in this great colony of Canada (and the feeling here is intense in its loyalty), so probably I am not sufficiently in touch with the question fully to value the expressions contained in the above-named contributions, yet my sympathies go entirely on the side of Mr. Crompton.

I have just recently lost my only son in the Belgian trenches while fighting for the Empire with a Western Canadian battalion, and naturally my feelings towards the enemy are bitter ; still they do not go so far as to approve of the deletion of the names of German or Austrian men which have been gladly and honourably placed upon our roll. I was always taught that Art had no geographical or racial boundaries : all artists, no matter what nationality, are brothers : and until it can be proved that these German and Austrian Hon. Corresponding Members, whose names were honourably entered on the roll of the R.I.B.A., have incontestably proved to have (1) abetted in destroying the ancient monuments of France or Belgium ; (2) are actually fighting against us—and that willingly ; (3) (and probably the most important) have used their connection with our Institute to assist their countries' operations to our detriment, I should hesitate—and hesitate long—before taking the drastic step proposed.

The day of peace will come, when the operations of war will give place to the arts of peace. Then what shall we say—what shall we feel towards these men? What will be our justification when they say, "You judged us unheard"? We shall then hardly feel that we upheld the British principle of holding every man innocent until he be proved guilty. Many Germans and Austrians no doubt deplore the fact that their countries' action is so hostile to us. Might these men it is sought to humiliate be amongst that number?

Mr. Cockrill is wrong when he states "the R.I.B.A. in electing these gentlemen as Hon. Corresponding Members conferred upon them an honour" and stops there. No man is elected to the R.I.B.A. as an honour conferred on him alone. He at the same time confers honour on the Institute, because if he brought no honour the Institute would have none of him. Therefore until you prove that these men have done something to sully the honour of the Institute or their own honour which makes up the honour of their membership you must deal with them in moderation and in a common-sense fashion. Might not Mr. Cockrill have raised his voice a little higher after condemning the men, and be logical by condemning the ideas, and cut out the Godwin Bursary Report dealing with "Continuation School Buildings in Germany and Austria" (!) which—irony of fate—appears nearly alongside his own letter?—Yours faithfully,

J. W. Frazer [*A.*].

OBITUARY.

Lieut. Spencer E. Barrow [*A.*].—One of the most promising members of the architectural profession in Lancaster has passed away by the death in St. Thomas's Hospital, London, of Lieut. Spencer Ellwood Barrow. The deceased officer, who was 43 years of age, was the younger son of the late Mr. William Barrow and of Mrs. Barrow of Yew, Garth, Lancaster. He was educated at Oliver's Mount School, Scarborough, and served his articles as an architect in Newcastle-on-Tyne. He was admitted an Associate of the Royal Institute in 1900, and for 15 years had been professionally engaged in Lancaster and was much esteemed in his profession. Among public buildings in Lancaster which he designed were the Y.M.C.A. Institute and The Friends Hall, and he had done much private work. For a number of years he was Hon. Treasurer of the Royal Lancaster Infirmary. Shortly after the outbreak of war he obtained a commission in the 5th Bn. the King's Own Royal Lancaster Regt., T.F., although coming of a Quaker family prominently associated with the Society of Friends in North Lancashire and the Midlands for generations. He went to the front in May and had only been in the trenches a few hours when his left arm was shattered. He was moved to Boulogne and thence to St. Thomas's Hospital. He appeared to be making excellent recovery, but septicæmia set in and proved fatal on the evening of November 16th.

Robert Griggs [*Associate*, elected 1876] died on the 24th November at the age of seventy-one. Mr. Griggs was in the office of the late Mr. H. Saxon Snell from 1866 to 1874 as pupil, assistant, and manager, except for a period of two years during which he served as clerk of works on some of Mr. Snell's large buildings. He had been architect and surveyor to the Berkeley Hotel Company since 1888, and carried out for them the additions made to the hotel, on the sites of Nos. 73–74 Piccadilly, with the alterations, &c., in Berkeley Street in 1896-97, and the further improvements effected three years ago. He was the architect for the renovation, with alterations and improvements, of Batt's Hotel in Dover Street, Piccadilly.

The late George Henry Hunt [pp. 29–30].—It has been pointed out to me that Mr. S. P. Cockerell was the assessor in the Scarborough Spa Buildings, not Professor Cockerell. The latter died in 1863, and the competition took place in 1875.—Chas. E. Bateman.

Death of Lady Richmond.—Lady Richmond, wife of Sir Wm. Richmond, R.A. [*Hon. A.*], was knocked down by a motor-car while crossing King Street, Hammersmith, on the 21st ult. She was taken home, and died the same night from her injuries. At the General Meeting last Monday the Hon. Secretary referred to the tragic event, and it was resolved that a message of the Institute's deepest sympathy in his great affliction should be conveyed to Sir William.

THE EXAMINATIONS.

The Statutory Examinations.

Examinations qualifying for candidature as District Surveyor in London, and as Building Surveyor under Local Authorities, was held by the Institute pursuant to Statute on the 21st, 22nd, and 23rd October. Six candidates attended for the District Surveyors' Examination, and the following passed:—

Ernest Fiander Etchells [*H.A.*], A.M.Inst.C.E., "St. Francis," 23 Franciscan Road, Balham, S.W.

Frederick Edward Mennie [*A.*], P.A.S.I., 1 New Court, Lincoln's Inn, W.C.

Walter Stephen Tucker [*A.*], 1 Dunbar Avenue, Norbury.

Two candidates attended for the Building Surveyors' Examinations and passed, viz.:—

John Denyer, 12 Milner Road, Nottingham.

Frederick Willey [*F.*], 60 Western Hill, Durham.

The successful candidates have been granted by the Council certificates of competency to act in the respective positions.

Advisory Members.

The Council have appointed Mr. C. H. Reilly, M.A. Cantab., Professor of Architecture at Liverpool University, Advisory Member of the Board to represent Liverpool University.

The Leeds School of Art.

The Council have approved the three years' Architectural Course at the Leeds School of Art as exempting from the Intermediate Examination.

MINUTES. II.

At the Second General Meeting (Business) of the Session 1915–16, held Monday, 29th November, at 3 p.m.—*Present*: Mr. Ernest Newton, A.R.A., *President*, in the Chair; 17 Fellows (including 13 Members of the Council), and 7 Associates (including 2 Members of the Council)—the Minutes of the meeting held 1st November 1915 having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced that since the last Meeting news had been received that the following Associates had fallen in the War—viz., Lieutenant Spencer Ellwood Barrow, of the 5th Battalion King's Own Royal Lancaster Regiment; Lieutenant Edmund Herbert Gibson, of the Royal Naval Volunteer Reserve; and Lieutenant George Alexander Kay, of the Sherwood Foresters; whereupon it was Resolved that the deep regrets of the Institute for the loss the profession had sustained by the death of these members be entered on the Minutes of the Meeting, and that a message expressive of the Institute's sincerest sympathy be forwarded to their nearest relatives.

A vote of condolence was also passed to Lady Schomberg McDonnell for the loss of her husband, the Hon. Sir Schomberg McDonnell, G.C.V.O., K.C.B., Secretary of H.M. Office of Works 1902–1912, who was wounded in the trenches on the 20th November and died on the 23rd; and to Sir Wm. Richmond, R.A. [*Hon. A.*], for the loss of his wife, who was knocked down by a motor-car and died from her injuries.

The death was also announced of Robert Griggs, *Associate*, elected 1876, and Frederick Ball and William Shanks, *Licentiates*.

The Secretary announced the results of the Statutory Examination held by the Institute in October.

The Secretary announced that the Council, in the exercise of their discretion under By-law 78, had admitted the East Africa Institute of Architects to alliance with the Royal Institute.

The following candidates were elected by show of hands:

As FELLOWS (11).

ALLEN: JOHN GORDON [*A.* 1910].
FARMER: JAMES WESTBROOK [*A.* 1908], Buenos Aires.
QUIGGIN: EDGAR [*A.* 1905], Liverpool.
ROBSON: PHILIP APPLEBY [*A.* 1897].

Together with the following Licentiates, who have passed the Examination qualifying for candidature as Fellows:—

BLACK: ALFRED BARHAM, Adelaide.
FORBES: JAMES EDWIN.
MACNIVEN: GEORGE DONALDSON, Edinburgh.
PEARSON: CHARLES BULMAN, Lancaster.
TATE: JOHN DUNCAN.
THOMPSON: CHARLES CLAYTON, Derby.
WITTET: GEORGE, J.P., Bombay.

As ASSOCIATES (23).

ADAMS: PERCY JOYCE [*S.* 1911].
ANDREW: HARRY [*S.* 1912], Hull.
BALSARA: PHEROZSHAH FARDOONJI [*Special*], Bombay.
BENNETT: JAMES [*S.* 1914].
BRUCE: REGINALD, P.A.S.I. [*Special*].
CATCHPOLE: EDGAR GOODING [*S.* 1908], Ipswich.
DUNCAN: ALEXANDER MACLAUGHLAN [*Special*], Glasgow.
FRANCIS: ERIC CARWARDINE [*S.* 1911].
HORNIMAN: JOHN HENRY [*S.* 1909].
LOWETH: SIDNEY HAROLD [*S.* 1913].
MITCHELL: CYRIL HAWTHORN [*S.* 1914], Wellington, N.Z.
MUSMAN: ERNEST PAUL BRANDER, B.A. Lond. [*S.* 1912].
NICHOLS: CHARLES EDWIN [*S.* 1911]. Sheffield.
PACE: CHARLES LANCASHIRE [*S.* 1907].
REIVE: THOMAS [*S.* 1908], Manchester.
ROBERTSON: MANNING DURDIN [*S.* 1911].
ROBINSON: ALFRED DOUGLAS [*S.* 1909].
SAYER: HARVEY ROBERT [*S.* 1905], Southampton.
TURNER: ALBERT ISAAC [*S.* 1909].
WALKER: HAROLD FREDERICK [*S.* 1913].
WILLIAMS: ENOCH [*S.* 1908], Cardiff.
WILSHERE: REGINALD SHARMAN [*S.* 1912].
YOUNG: WILLIAM CECIL [*S.* 1910], Manchester.

The Secretary announced that by a resolution of the Council pursuant to By-law 22 the following gentlemen had ceased to be members of the Royal Institute:—*In the class of Fellows*, William Thomas Allen, Arthur Alderson France, William John Gilliland, Cholton James, William Norman Pogson, Reginald Pope, Frederick Bennett Smith, John Collingwood Tully, Horace Magenniss Wakley, James Leonard Williams. *In the class of Associates*, Thomas Culy Grimble, Samuel Woods Hill, Bruce Johnston, Harry Wilson Pye, James Saunders, Christopher Mitchell Shiner, George Daniel Stevenson, Frank Sykes, Ernest William Malpas Wonnacott, Richard Wylie. *In the class of Licentiates*, Cyril Eyres Ainley, Thomas Ashton, Stanley Bailey, Fred Baker, George Alfred Birkenhead, Frank Bleasdale, John Francis Burkinshaw, Ernest Newman Butler, Harold Forbes Clarke, George Scott Coburn, George William Cooper, James Gregory Crisp, Herbert Denton, Ernest Gordon Ross Downer, Thomas Dykes, Allan George, Rainald William Knightly Goddard, David Frederick Green, E. G. Harrison, John Black Hector, James Hardwick Higgs, John Grafton Izard, J. Watson Jerdan, Montague William Leman, Alexander MacRae, Alexander Robert Meldrum, George Frederick Miller, Harold Victor Milles-Diamond, Joseph Robert Musto, John Banner Pinchbeck, Cecil Molyneux Quilter, James Gilbert Reynolds, Alfred John Roddis, George Sedger, John Walker Smart, George Henry Stevenson, John Taylor, Alexander Cameron Todd, Edward Tough, Charles William Townsend, Noble Vaux, John William Wade, Harry William Wakeman, Joseph Richard Wray.

The next business on the agenda being a motion for an alteration in the Regulations for Architectural Competitions, a question which, under By-law 67, could only be brought to an issue by a quorum of at least forty members, the President drew attention to the want of a competent quorum and referred to the absence of many members on military duties, and it was agreed on his suggestion that it would not be advisable to discuss the proposition, as no decision could be arrived at.

Mr. Langston, having pointed out that owing to the new arrangement of printing the agenda papers as part of the JOURNAL, members were put to the inconvenience of bringing their copies of the JOURNAL to the meetings, and suggested that agenda papers might be issued separately for the use of members attending the meetings, the President replied that a note would be made of the suggestion.

The President announced that there being no candidates for nomination the Meeting fixed for the 13th December would not be held.

The proceedings then closed, and the meeting separated at 3.20 p.m.

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AN ARCHITECT, having a small office in Holborn, would be glad to hear of another Architect or Quantity Surveyor willing to share the same with him.—Apply "Box 234," R.I.B.A., 9 Conduit Street, W.

JOHN STREET, Bedford Row: one, two, or three offices on second floor to let, furnished or unfurnished. Or would share with telephone. Apply "Z," R.I.B.A., 9 Conduit Street.